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09/495,597	02/01/2000	Thumpudi Naveen		5071

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EXAMINER

CARTER, AARON W

ART UNIT PAPER NUMBER

2625

DATE MAILED: 10/06/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/495,597

Applicant(s)

NAVEEN ET AL.

Examiner

Aaron W Carter

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-8 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 February 2000 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to papers filed on May 28, 2003.

Response to Amendment

2. In response to applicant's amendment received on May 28, 2003, all requested changes to the specification and claims have been entered. Claims 7 and 8 have been added.

Response to Arguments

3. Applicant's arguments, see Amendment A, filed May 28, 2003, with respect to claim 3 have been fully considered and are persuasive. The 35 USC 103(a) rejection of claim 3 has been withdrawn.

Applicant's arguments with respect to the rejection(s) of claim(s) 1, 2, and 4-6 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of USPN 6,292,575 to Bortolussi et al. ("Bortolussi") and USPN 6,266,442 to Laumeyer et al. ("Laumeyer").

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an

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international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1 and 2 are rejected under 35 U.S.C. 102(e) as being anticipated by USPN 6,292,575 to Bortolussi et al. ("Bortolussi").

As to claim 1, Bortolussi discloses a method of generating a normalized bitmap of the shape of a visual object in an image comprising the steps of:

segmenting the image to generate a segmentation map of visual objects (Fig. 3, element 56);

identifying samples from the segmentation map belonging to a visual object of interest (Fig. 3, element 52);

identifying the largest connected blob to form an un-normalized bitmap (column 23-38, wherein the largest connected blob is identified and determined to be a rough estimate of a Head ROI, rough corresponds to un-normalized bitmap); and

normalizing the un-normalized bitmap to form the normalized bitmap representation (column 7, lines 18-21, wherein the color of the ROI is normalized, see also Fig. 4B and column 8, lines 50-57, wherein producing a refined ROI also corresponds to normalization).

As to claim 2, Bortolussi discloses the method as recited in claim 1 further comprising the step of searching a database of images each image having associated visual objects with normalized bitmap representations, in response to a query specifying a desired normalized bitmap representation to identify a plurality of visual objects having normalized bitmap

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representations that closely match the desired normalized bitmap representation (column 19, lines 31-47).

6. Claims 7 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by USPN 6,266,442 to Laumeyer et al. ("Laumeyer").

As to claim 7, Laumeyer discloses a method of searching for representations of visual objects using a search system capable of comparing attributes of visual images, comprising the steps of:

Matching similar data representing a value of an aspect ratio, and a density value corresponding to visual objects in a database;

Listing the visual objects that have attributes that approximately match the aspect ratio and density values (column 7, lines 3-12).

As to claim 8, Laumeyer discloses the method of claim 7, wherein the density value matched to at least one of a percentage less than an inputted value, and a percentage greater than an inputted value (column 7, lines 7-8, wherein percentage of color corresponds to density value)

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bortolussi as applied to claim 1 above, and further in view of U.S. Patent 6,002,794 to Bonneau et al. ("Bonneau").

As to claim 4, Bortolussi discloses the method as recited in claim 2 wherein the searching step comprises the steps of: providing a query bitmap seeking similarly shaped visual objects from the database; normalizing the query bitmap; for each normalized bitmap representation in the database compute a mismatch value with the normalized query bitmap; and identifying the visual objects having normalized bitmap representations with low mismatch values (column 42-63). Bortolussi does not explicitly disclose the step of obtaining various mirror versions of the normalized query bitmap. However, Bonneau teaches us that obtaining various mirrored versions of an image are beneficial in that it creates more images for comparing another image with (column 3, lines 10-13). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of Bortolussi with the teachings of Bonneau. This gives the invention the advantage of providing more images for comparison, which will increase the chances of finding the correct image during a query (column 3, lines 10-13).

9. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bortolussi as applied to claim 2 above, and further in view of U.S. Patent 6,415,282 to Mukherjea et al. ("Mukherjea").

As to claim 5, Bortolussi discloses the method as recited in claim 2 wherein the searching step comprises the steps of: providing a query bitmap to find visual objects in the database that are similar; normalizing the query bitmap; obtaining an absolute difference between the normalized bitmap representation and the query; and identifying the visual objects where the absolute difference has low values (column 3, lines 10-13). Bortolussi does not explicitly disclose that the difference between the normalized bitmap representation and the query bitmap is based on their aspect ratios. However, Mukherjea teaches us that comparing the aspect ratio of a query image with the aspect ratio of a template image are a good way of identifying a query image (column 8, lines 14-29). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the inventions of Bortolussi and Mukherjea. This would give the invention the advantage of comparing aspect ratio of images for use in image identification.

10. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bortolussi as applied to claim 1 above, and further in view of U.S. Patent 6,181,817 to Zabith et al. ("Zabith").

As to claim 6, Bortolussi discloses the method as recited in claim 2 wherein the searching step comprises the steps of: providing a query bitmap to find visual objects in the database that are similar; obtaining an absolute difference between the normalized bitmap representation and the query; and identifying the visual objects where the absolute difference has low values (column 3, lines 10-13). Bortolussi does not explicitly disclose that the difference between the normalized bitmap representation and the query bitmap is based on their densities. However, Zabith teaches a method of comparing data objects based on their densities (column 3,

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lines 40-42 and column 4, lines 2-4). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the inventions of Bortolussi and Zabith. This gives the searching step of Bortolussi the advantage of comparing image densities, which will increase the probability of correctly matching image segments (column 3, lines 45-47).

Allowable Subject Matter

11. Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Contact Information

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron W. Carter whose telephone number is 703.306.4060. The examiner can normally be reached by telephone between 8am - 4:30pm (Mon. – Fri.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 703.308.5246. The fax phone number for the organization where the application or proceeding is assigned is 703.872.9306 for regular communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.306.0377.

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Aaron W. Carter
Examiner
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September 23, 2003


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SUPERVISORY PATENT EXAMINER
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